

WE CLAIM:

1. A feedback gain control for an optical coupler feedback circuit, comprising:

an optical coupler having input leads and output leads isolated from said input leads;

a current monitor connected to said input leads;

a reference level;

an operational amplifier having a first input connected to said current monitor and a second

input connected to said reference level, an output of said operational amplifier

connected to vary current to said input leads of said optical coupler depending on

input signals to said operational amplifier.

2. A feedback gain control as claimed in claim 1, further comprising:

an active element is connected at said output of said operational amplifier, said active element

being connected to vary current to said input leads of said optical coupler depending

on an output signal from said operational amplifier.

3. A feedback gain control as claimed in claim 2, wherein said active element is a transistor.

4. A feedback gain control as claimed in claim 1, wherein said output of said operational amplifier draws off current from said input leads of said optical coupler depending on an output signal from said operational amplifier.

5. A feedback gain control as claimed in claim 1, wherein said current monitor is a voltage divider.

6. A feedback gain control for an optical coupler feedback circuit, comprising:
an optical coupler having input leads and output leads isolated from said input leads;
a current monitor connected to said input leads; and
an active element connected to respond to changes in current flow as detected by said current monitor and connected to vary current at said input leads of said optical coupler.

7. A feedback gain control as claimed in claim 6, wherein said active element is a shunt regulator.

8. A feedback gain control as claimed in claim 6, wherein said active element is a transistor.

9. A feedback gain control as claimed in claim 8, further comprising:
an operational amplifier having a first input connected to said current monitor and a second input at a reference value and an output connected to a control input of said transistor.

10. A feedback gain control as claimed in claim 8, wherein said transistor is a field effect transistor.

11. A feedback gain control as claimed in claim 6, wherein said active element is in
an output circuit of an operational amplifier.

12. A method for gain control of an optical coupler feedback circuit, comprising the
steps of:
monitoring a current at an input of an optical coupler in said optical coupler feedback relative
to a reference; and
varying a current supplied to said input of said optical coupler depending on variation of said
current from said reference to effect a substantially constant gain of said optical
coupler feedback circuit over a lifetime of the optical coupler feedback circuit.

13. A method as claimed in claim 12, wherein said monitoring step includes
monitoring a voltage at a voltage divider.

14. A method as claimed in claim 12, wherein said reference is a reference voltage.

15. A method as claimed in claim 12, wherein said reference is a characteristic of a
shunt regulator.

16. A method as claimed in claim 12, further comprising the step of:
comparing said current to said reference to produce a comparison result.

17. A method as claimed in claim 16, wherein said step of varying the current is controlled by said comparison result.

18. A power supply, comprising:

a power transformer having an input side and an output side;
a rectifier connected to said output side of said power transformer and having an output at which is available an output voltage;
an operational amplifier connected to said output of said rectifier and connected to a first reference value, said operational amplifier having an output;
a first active element having a control input connected to said output of said operational amplifier;
an optical coupler having an input and an output isolated from said input, said input being connected to be controlled by said first active element;
a control circuit having an input connected to said output of said optical coupler and an output connected to said input side of said power transformer;
a voltage divider connected to receive at least a portion of a current through said first active element and said input of said optical coupler;
a second active element connected to selectively draw current from said first active element and said input of said optical coupler, said second active element operating relative to a second reference value to hold a gain through said optical coupler substantially constant.

19. A power supply as claimed in claim 18, wherein said operational amplifier is a first operational amplifier, and further comprising:
a second operational amplifier connected to receive a voltage from said voltage divider and to receive said second reference value, said second operational amplifier having an output connected to a control input of said second active element.

20. A power supply as claimed in claim 18, wherein said second active element is a shunt regulator having an input connected to said voltage divider.

21. A gain controlled feedback circuit, comprising:
an optical coupler having an input and an output isolated from said input;
a first transistor connected to said input of said optical coupler;
a first operational amplifier having an output connected to a control input of said first transistor, said first operational amplifier having first and second inputs connected to a first reference value and to a value to be controlled;
a voltage divider connected to said first transistor;
a second operational amplifier having first and second inputs connected to a second reference value and to said voltage divider; and
a second transistor having a control input connected to an output of said second operational amplifier, said second transistor having a controllable current path connected to said first transistor to draw off current from said voltage divider depending on gain variations of said optical coupler.